

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND
INTERFERENCES



In re the application of:
IGOR PALLEY ET AL.

Docket: 30-3744CPA

Serial Number: 08/533,589

Group Art Unit: 3727

Filed: September 25, 1995

Examiner: N. Eloshway

For: BLAST RESISTANT AND BLAST DIRECTING CONTAINERS AND
METHODS OF MAKING

Colonial Heights, VA 23834
March 10, 2004

BRIEF ON APPEAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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Sir:

Applicants hereby appeal to the Board of Patent Appeals and Interferences from the decision of the Primary Examiner dated June 10, 2003, finally rejecting claims 37-38, 42-57 and 74-76. A Notice of Appeal was filed on December 10, 2003. The Commissioner is authorized to charge the Appeal Brief Filing Fee (37 CFR §1.17c)) of \$330.00 to Deposit Account No. 01-1125. The Commissioner is authorized to charge \$110.00 for a one (1) month extension fee (37 CFR § 1.17(a)(1)) for responding to this Notice of Appeal or any additional fees which may be required by this paper, or credit any overpayment to Deposit Account No. 01-1125.

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I. REAL PARTY IN INTEREST

The real party in interest is Honeywell International Inc., successor in interest to AlliedSignal Inc., who is the assignee of record.

II. RELATED APPEALS AND INTERFERENCES

The present patent application has a continuation-in-part patent application on which an appeal brief was filed November 3, 2003: USSN 08/717,042, filed September 20, 1996, with claims (numbered 1, 3-11, 13-47 and 51-53) under final rejection by the same Examiner, Niki M. Eloshway.

III. STATUS OF CLAIMS

Claims 37-38, 42-57 and 74-76 are presented on appeal. These claims have been finally rejected in the Office Action identified above. A copy of the claims is reproduced in the Appendix (Section IX).

Claims 1-6 and 8-36 have been allowed.

Claims 7, 39-41, 58-73 and 77-117 have been withdrawn from consideration by the Examiner as directed to a non-elected invention and/or species.

IV. STATUS OF ALL AMENDMENTS FILED SUBSEQUENT TO FINAL REJECTION

There have been no amendments filed subsequent to the issuance of the Final Rejection mailed June 10, 2003.

V. SUMMARY OF THE INVENTION

The invention is an improved blast resistant container. In the embodiment of claims 37-38 and 42-58, the container has an access opening that is at least partially covered by a hinge-less, channel-less closure for the opening. This closure comprises at least one band of a material that encircles the container. In the embodiment of claims 74-76, a composite strip is attached to and reinforces the blast resistant container. The composite strip comprises a tape of unidirectional high strength fibers or oriented film encircling the container in a hoop direction at least once.

These improved containers can withstand tremendous pressures and resist pulling apart after an explosion therein.

VI. ISSUES

The issues in this appeal are whether

- A. there is sufficient motivation to one of ordinary skill in the art to which the subject matter pertains, i.e., blast resistance, to combine the Sacks (USP 5,249,534) and Lewis (USP 674,009) references; and
- B. claims 37-38, 42-57 and 74-76 are unpatentable under 35 U.S.C. §103(a) over Sacks (USP 5,249,534) in view of Lewis (USP 674,009).

VII. GROUPING OF CLAIMS

Claims 37-38, 42-57 and 74-76 are all grouped together by the Examiner. Appellants respectfully submit that these claims, as a whole, do not stand or fall together. Specifically, claims 37, 42-45 and 47-57 should be grouped together. Claims 74-76 should be grouped together. Each of claims 38 and 46 should stand alone.

VIII. ARGUMENTS

A. Is there sufficient motivation to one of ordinary skill in the art to which the subject matter pertains, i.e., blast resistance, to combine the Sacks (USP 5,249,534) and Lewis (USP 674,009) references.

There is absolutely no motivation to one of ordinary skill in the art to which the subject matter pertains, i.e., blast resistance, to combine the Sacks and Lewis references. See **In re Sang-Su Lee**, 277 F.3d 1338 (CAFC 2002). Lewis is a turn-of-the-twentieth-century patent that teaches a knockdown paper box. It is respectfully submitted that one of ordinary skill in the art, even with the Sacks reference available, would not look to Lewis for container structure to enhance blast resistance. The substantially seamless outermost band of the claimed invention is different from the bands of Lewis, which must only abut, not overlap. The Lewis container/box edge is created by a hinging strip or tape that joins the

abutting edges. This taped edge fatally flaws the design insofar as blast resistance is concerned and thus, teaches away from Appellants' invention.

The Examiner essentially states that the preamble limitation of "blast resistant" imparts no structure to the claims under appeal and is merely one possible field of intended use of the product. Appellants respectfully disagree. In evaluating an invention for obviousness the invention must be considered as a whole. Each limitation of the claim is material and essential, including the preamble, and limitations cannot be ignored in assessing patentability.

Diversitech Corp. v. Century Steps Inc., 892 F.2d 1562, 7 USPQ2d 1315 (Fed.Cir. 1988); In re Stencel, 828 F.2d 751, 4 USPQ2d 1071 (Fed.Cir. 1987).

In the invention of the claims under appeal, i.e., 37-38, 42-57 and 74-76, Appellants respectfully submit that the claim preamble description "blast resistant" gives life and meaning to the claimed container and should be considered a claim limitation. See Corning Glass Works v. Sumitomo electric U.S.A. 868 F.2d 1251, 9 USPQ2d 1962 (Fed.Cir. 1989). One skilled in the art would not expect to consult century-old, knockdown paper box art for a blast resistant container. See discussion at Mullin, V., PTO Practice: Preamble – Prelude to Patentability, Vol. 72, No. 4, 348, 358 (1990).

B. 1. Are claims 37, 42-45 and 47-57 unpatentable under 35 U.S.C. §103(a) over Sacks (USP 5,249,534) in view of Lewis (USP 674,009).

The references, alone or together, neither teach nor suggest the improved blast resistant container of claims 37, 42-45 and 47-57, for the reasons that follow. Neither Sacks' third panel, nor any of the casings of Lewis, teaches or suggests a "band" of material which encircles a blast resistant container to at least partially cover an access opening to the container. The third panel of Sacks simply constricts/holds down its other two panels, while the casings of Lewis fail to encircle the container (at best, the casings abut without overlap). As such, providing the container of Sacks with the 1st and 2nd bands of Lewis, would not achieve the desired result.

B. 2. Is claim 38 unpatentable under 35 U.S.C. §103(a) over Sacks (USP 5,249,534) in view of Lewis (USP 674,009).

The references, alone or together, neither teach nor suggest the improved blast resistant container of claim 38. Sacks fails to teach or suggest that a panel slide on the container for any purpose. Lewis teaches that its outermost casing, once assembled, can slide for assembly with the balance of the paper box – but at the point in time where this casing would be utilized, there is no access opening to be covered or exposed. Claim 38 should therefore be found patentable over these references.

B. 3. Is claim 46 unpatentable under 35 U.S.C. §103(a) over Sacks (USP 5,249,534) in view of Lewis (USP 674,009).

It is the Examiner's position that the wound third panel of Sacks inherently satisfies the limitation of claim 46 that "at least about 75 weight percent of [the] fibers [should be] substantially continuous lengths of fiber that encircle the container." This is incorrect. The materials suggested by Sacks are woven fabrics and a nonwoven fabric (column 1, 5th full paragraph). The nonwoven fabric specified by Sacks is Spectra Shield® material, which is a commercial product of the real party in interest. Both of these woven and nonwoven products are balanced materials, i.e., consisting of 50 weight percent of the fibers in each of the two fiber directions, at right angles to one another. There is nothing in Sacks to suggest the use of an imbalanced material wherein at least about 75 weight percent of the fibers are substantially continuous lengths that encircle the container. This deficiency is not met by Lewis, which nowhere refers to high strength fibrous materials.

B. 4. Are claims 74-76 unpatentable under 35 U.S.C. §103(a) over Sacks (USP 5,249,534) in view of Lewis (USP 674,009).

Neither Sacks nor Lewis teaches or suggests a reinforcing strip comprised of "a tape of unidirectional high strength fibers or oriented film encircling the container in a hoop direction at least once." It is the Examiner's position that the wound third panel of Sacks inherently satisfies this limitation. Appellants respectfully disagree. As previously noted, Sacks teaches balanced woven and nonwoven fibrous materials. There is nothing in Sacks to suggest the use of an imbalanced fibrous material wherein the high strength fibers are unidirectional,

nor the use of an oriented film tape. This deficiency is not met by Lewis, which nowhere refers to high strength fibrous materials or oriented films.

CONCLUSION

For the reasons stated, Appellants respectfully submit that the claims on appeal, i.e., claims 37-38, 42-57 and 74-76, should be found allowable.

Respectfully submitted,
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IX. APPENDIX – CLAIMS ON APPEAL

37. In a blast resistant container having an access opening, the improvement comprising a hinge-less, channel-less closure for said opening, said closure comprising at least one band of a material which encircles the container to at least partially cover said access opening.

38. The improved container of claim 37 wherein said band slides on said container in a first direction to at least partially expose said access opening and in a second direction to at least partially cover said access opening.

42. The improved container of claim 37 wherein said container includes a door for said access opening, said band at least partially covering said door when said door is closed over said access opening.

43. The improved container of claim 37 wherein the band material comprises at least one fibrous layer, said fibrous layer comprising at least one network of fibers, at least about 10 weight percent of said fibers being substantially continuous lengths of fiber that encircle the container.

44. The improved container of claim 43 wherein said fiber comprises a high strength fiber having a tenacity of at least about 10 g/d and a tensile modulus of at least about 200 g/d.

45. The improved container of claim 43 wherein at least about 50 weight percent of said fibers are substantially continuous lengths of fiber that encircle the container, and wherein said band is substantially seamless.

46. The improved container of claim 45 wherein at least about 75 weight percent of said fibers are substantially continuous lengths of fiber that encircle the container.

47. The improved container of claim 45 wherein said fiber comprises a high strength fiber having a tenacity of at least about 10 g/d and a tensile modulus of at least about 200 g/d.

48. The improved container of claim 47 wherein said high strength fibers are selected from the group consisting of extended chain polyolefin fibers, aramid fibers, polyvinyl alcohol fibers, polyacrylonitrile fibers, liquid copolyester fibers, polyamide fibers, glass fibers, carbon fibers, and mixtures thereof.

49. The improved container of claim 47 wherein said fibers are polyolefin fibers.

50. The improved container of claim 47 wherein said fibers are aramid fibers.

51. The improved container of claim 47 wherein said fibers are a mixture of at least two of polyethylene fibers, aramid fibers, polyamide fibers, carbon fibers and glass fibers.

52. The improved container of claim 44 wherein said high strength fibers are selected from the group consisting of extended chain polyolefin fibers, aramid fibers, polyvinyl alcohol fibers, polyacrylonitrile fibers, liquid copolyester fibers, polyamide fibers, glass fibers, carbon fibers, and mixtures thereof.

53. The improved container of claim 44 wherein said fibers are polyolefin fibers.

54. The improved container of claim 44 wherein said fibers are aramid fibers.

55. The improved container of claim 44 wherein said fibers are a mixture of at least two of polyethylene fibers, aramid fibers, polyamide fibers, carbon fibers and glass fibers.

56. The improved container of claim 47 wherein the network of fibers is in a resin matrix.

57. The improved container of claim 56 wherein the matrix comprises a low modulus polymeric matrix selected from the group consisting of a low density polyethylene; a polyurethane; a flexible epoxy; a filled elastomer vulcanizate; a thermoplastic elastomer; and a modified nylon 6.

74. In a blast resistant container, the improvement comprising a composite strip attached to and reinforcing said container, said strip comprising a tape of unidirectional high strength fibers or oriented film encircling the container in a hoop direction at least once.

75. The container of claim 74 wherein said strip comprises a tape of unidirectional high strength fibers having a tenacity of at least about 10 g/d and a tensile modulus of at least about 200 g/d.

76. The container of claim 74 wherein said strip comprises a tape of oriented film selected from the group consisting of homopolymers and copolymers of thermoplastic polyolefins, thermoplastic elastomers, crosslinked thermoplastics, crosslinked elastomers, polyesters, polyamides, fluorocarbons,

urethanes, epoxies, polyvinylidene chloride, polyvinyl chloride, and blends thereof.